STIC Search Report
EIC 3600

STIC Database Tracking Number: 107708

Scott Hughes Location: KNX4C05 Art Unit: 3663 Employee #80429 Monday, March 24, 2008 Case Serial Number: 10/826174	From: Etelka R. Griffin Location: EIC 3600 KNOX/4B68 Phone:571-272-4230 Etelka.griffin@uspto.gov

Search Notes

Litigation Search
6477113

Databases Searched:

Lexis/ Nexis
Courtlink
Questel-Orbit

LexisNexis® Total Research System

Switch Client | Preferences | Sign Off | Help

My Lexis™ Search Research Tasks Get a Document Shepard's® Alerts Transactional Advisor Counse

Source: Legal > Area of Law - By Topic > Patent Law > Find Patents > More U.S. Patents > **Utility, Design and Plant Patents**

Terms: **patno=6477113** (Edit Search | Suggest Terms for My Search)

809472 (09) 6477113 November 5, 2002

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

6477113

Get Drawing Sheet 1 of 5
Access PDF of Official Patent *
Check for Patent Family Report PDF availability *

* Note: A transactional charge will be incurred for downloading an Official Patent or Patent Family Report. Your acceptance of this charge occurs in a later step in your session. The transactional charge for downloading is outside of customer subscriptions; it is not included in any flat rate packages.

Order Patent File History / Wrapper from REEDFAX®
Link to Claims Section

November 5, 2002

Source waveforms for electroseismic exploration

APPL-NO: 809472 (09)

FILED-DATE: March 15, 2001

GRANTED-DATE: November 5, 2002

ASSIGNEE-PRE-ISSUE: June 12, 2001 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., EXXONMOBIL UPSTREAM RESEARCH COMPANY P.O. BOX 2189 3319 MERCERHOUSTON, TEXAS, 77027, Reel and Frame Number: 011894/0968

ASSIGNEE-AT-ISSUE: ExxonMobil Upstream Research Company, Houston, Texas, United States (US), United States company or corporation (02)

CORE TERMS: sequence, waveform, seismic, lobe, wave, correlation, register, electroseismic, frequency, binary ...

ENGLISH-ABST:

A method for seismic exploration using conversions between electromagnetic and seismic energy, with particular attention to the electromagnetic source waveform used. According to the invention, source waveforms are correlated with reference waveforms selected to minimize correlation side lobes. Line power at 60 Hz may be used to provide a waveform element which may be sequenced by a binary code to generate an extended source waveform segment with minimal correlation side lobes. Preferred binary codes include Golay complementary pairs and maximal length shift-register sequences.

Patents
Terms: **patno=6477113** (Edit Search | Suggest Terms for My Search)
View: **Custom**
Segments: Abst, Assignee, English-abst, Filed-date, Pct-pub-date, Priority-country, Reexam-cert
Date/Time: Monday, March 24, 2008 - 9:36 AM EDT

My Lexis™ | Search | Research Tasks | Get a Document | *Shepard's*® | Alerts | Transactional Advisor | Counsel Selector
History | Delivery Manager | Switch Client | Preferences | Sign Off | Help

LexisNexis® About LexisNexis | Terms & Conditions | Contact Us
Copyright © 2008 LexisNexis, a division of Reed Elsevier Inc. All rights reserved.

Enter Search Terms

Search Hel

Terms and Connectors | Natural Language | Easy Search

6477113 or 6,477,113

Suggest Terms for My Search | Search | Check Spelling

Restrict by Document Segment:

Select a document segment, enter search terms for the segment, then click Add.

Select a Segment | Add

Note: Segment availability differs between sources. Segments may not be applied consistently across sources.

Restrict by Date:

No Date Restrictions | From | To | Date Formats...

Search Con

and	and
or	or
w/N	with
pre /N	prec
w/p	in s
w/seg	in s
w/s	in s
and not	and

> More Connec

How Do I...?

> Use wildcard for one or m search term

> Restrict by d

> Restrict by d

Vie

LexisNexis®

About LexisNexis | Terms & Conditions | Contact Us

Copyright © 2008 LexisNexis, a division of Reed Elsevier Inc. All rights reserved.

No Documents Found

No documents were found for your search terms

"**6477113 or 6,477,113**"

Click "Save this search as an Alert" to schedule your search to run in the future.

- OR -

Click "Edit Search" to return to the search form and modify your search.

Suggestions:

- Check for spelling errors .
- Remove some search terms.
- Use more common search terms, such as those listed in "Suggested Words and Concepts"
- Use a less restrictive date range.

Save this Search as an Alert Edit Search



About LexisNexis | Terms & Conditions | Contact Us
Copyright © 2008 LexisNexis, a division of Reed Elsevier Inc. All rights reserved.

Enter Search Terms

Search Hel

Terms and Connectors | Natural Language | Easy Search

6477113 or 6,477,113

Suggest Terms for My Search | Search

Check Spelling

Search Con

and	and
or	or
w/N	with
pre /N	prec
w/p	in s
w/seg	in s
w/s	in s
and not	and

> More Connec

Restrict by Document Segment:

Select a document segment, enter search terms for the segment, then click Add.

Select a Segment | Add

Note: Segment availability differs between sources. Segments may not be applied consistently across sources.

How Do I...?

> Use wildcard for one or m search term
> Restrict by d
> Restrict by d

Restrict by Date:

No Date Restrictions | From | To | Date Formats...

Vie

LexisNexis® About LexisNexis | Terms & Conditions | Contact Us

Copyright © 2008 LexisNexis, a division of Reed Elsevier Inc. All rights reserved.

No Documents Found

No documents were found for your search terms

"**6477113 or 6,477,113** "

Click "Save this search as an Alert" to schedule your search to run in the future.

- OR -

Click "Edit Search" to return to the search form and modify your search.

Suggestions:

- Check for spelling errors .
- Remove some search terms.
- Use more common search terms, such as those listed in "Suggested Words and Concepts"
- Use a less restrictive date range.

Save this Search as an Alert Edit Search

LexisNexis®
About LexisNexis | Terms & Conditions | Contact Us
Copyright © 2008 LexisNexis, a division of Reed Elsevier Inc. All rights reserved.

LexisNexis· CourtLink·

Welcome Etelka Griffin!

Patent Search 6477113 3/24/2008

No cases found.

Return to Search

(Charges for search still apply)

LexisNexis® | About LexisNexis | Terms & Conditions | Pricing | Privacy | Customer Support - 1-888-311-19
Copyright © 2008 LexisNexis®. All rights reserved.

1 / 1 PLUSPAT - ©Questel - image

Patent Number :
US2001046185 A1 20011129 [US20010046185]

Patent Number 2 :
US6477113 B2 20021105 [US6477113]

Title :
(A1) Source waveforms for electroseismic exploration

Patent Assignee :
(B2) EXXONMOBIL UPSTREAM RES CO (US)

Patent Assignee :
ExxonMobil Upstream Research Company, Houston TX [US]

Patent Assignee 2 :
(B2) EXXONMOBIL UPSTREAM RES CO (US)

Inventor(s) :
(A1) HORNBOSTEL SCOTT C (US); THOMPSON ARTHUR H (US)

Application Nbr :
US80947201 20010315 [2001US-0809472]

Filing Details :
Rel. Prov. 60/191,041 20000321 [2000US-P191041]

Priority Details :
US80947201 20010315 [2001US-0809472]
US19104100P 20000321 [2000US-P191041]

Intl Patent Class :
(A1) G01V-001/00

IPC Advanced All :
G01V-001/04 [2006-01 A - I R M EP]; G01V-003/08 [2006-01 A - I R M EP]

IPC Core All :
G01V-001/02 [2006 C - I R M EP]; G01V-003/08 [2006 C - I R M EP]

EPO ECLA Class :
G01V-001/04
G01V-003/08C

:
ORIGINAL (O) : 367038000; CROSS-REFERENCE (X) : 181106000 324323000

Document Type :
Basic

Citations :
US5841280 [US5841280] 324323000
-US5877995 [US5877995] 324323000
Digital Communications with Space Applications, pp. 1-20, 165-167, Solomon W. Golomb, editor, Prentice-Hall Inc. (1964). (No Month Given).
- Zierler, Neal, "Linear Recurring Sequences", J. Soc. Indust. Appl. Math., vol. 7 (1), pp. 31-48 (1959). (No Month Given).
- Cunningham, Allen B., "Some Alternate Vibrator Signals," Geophysics vol. 44 (12), pp. 1901-1921, (1979). (No Month Given).
- Duncan, P.M. et al, "The Development and Applications of a Wide Band Electromagnetic Sounding System Using a Pseudo-Noise Source," Geophysics vol. 45 (8), pp. 1276-1296, (Aug. 1980).
- Foster, M.R. et al, "The Use of Pseudonoise Sequences to Code a Pulsed Neutron Logging Source," Geophysics vol. 37 (3), pp. 481-487, (Jun. 1972).
- Kounias, S., et al, "On Golay Sequences," Discrete Mathematics 92, pp. 177-185, (1991). (No Month Given).
- Yilmaz, O. "Seismic Data Processing," Society of Exploration Geophysicists, pp. 18-19, (1987). (No Month Given).
- Golay, M.J.E., "Complementary Series", IRE Transactions on Information Theory, 7, pp. 82-87, (1961). (No Month Given).

Publication Stage :
(A1) Utility Patent Application published on or after January 2, 2001

Publication Stage 2 :
(B2) U.S. Patent (with pre-grant pub.) after Jan. 2, 2001

Abstract :
A method for seismic exploration using conversions between electromagnetic and seismic energy, with particular attention to the

electromagnetic source waveform used. According to the invention, source waveforms are correlated with reference waveforms selected to minimize correlation side lobes. Line power at 60 Hz may be used to provide a waveform element which may be sequenced by a binary code to generate an extended source waveform segment with minimal correlation side lobes. Preferred binary codes include Golay complementary pairs and maximal length shift-register sequences.

Update Code :
2001-50

1 / 1 LGST - ©EPO

Patent Number :
US2001046185 A1 20011129 [US20010046185]
US6477113 B2 20021105 [US6477113]

Application Number :
US80947201 20010315 [2001US-0809472]

Action Taken :
20010612 US/AS-A
ASSIGNMENT
OWNER: EXXONMOBIL UPSTREAM RESEARCH COMPANY P.O. BOX 2189; EFFECTIVE DATE: 20010319
ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HORNBOSTEL, SCOTT C.;THOMPSON, ARTHUR H.;REEL/FRAME:011894/0968

20010612 US/AS-A
ASSIGNMENT
OWNER: EXXONMOBIL UPSTREAM RESEARCH COMPANY P.O. BOX 2189; EFFECTIVE DATE: 20010319
ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HORNBOSTEL, SCOTT C. /AR;REEL/FRAME:011894/0968

20040720 US/RF-A
REISSUE APPLICATION FILED
EFFECTIVE DATE: 20040416

Update Code :
2006-04

1 / 1 CRXX - ©CLAIMS/RRX

Patent Number :
6,477,113 A 20021105 [US6477113]

Patent Assignee :
ExxonMobil Upstream Research Co

Actions :
20040416 REISSUE REQUESTED
ISSUE DATE OF O.G.: 20040720
REISSUE REQUEST NUMBER: 10/826174
EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 2838

Reissue Patent Number: